



Docket No.: 50090-247

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re Application of

Osamu HASHIMOTO, et al.

Serial No.: 09/730,750

Filed: December 07, 2000

Customer Number: 20277

Confirmation Number: 9440

Group Art Unit: 2829

Examiner: Jimmy Nguyen

For: APPARATUS AND METHOD OF INSPECTING SEMICONDUCTOR INTEGRATED  
CIRCUIT

TRANSMITTAL OF APPEAL BRIEF

Mail Stop Patent Appeal  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

Submitted herewith in triplicate is Appellant(s) Appeal Brief in support of the Notice of Appeal filed August 15, 2003. Please charge the Appeal Brief fee of \$330.00 to Deposit Account 500417.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,  
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**Date: October 15, 2003**

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**APPEAL BRIEF**

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Commissioner for Patents  
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Sir:

This Appeal Brief is submitted in support of the Notice of Appeal filed August 15, 2003.

**I. REAL PARTY IN INTEREST**

The real party in interest is Mitsubishi Denki Kabushiki Kaisha.

**II. RELATED APPEALS AND INTERFERENCES**

Appellants are unaware of any related appeals and interferences.

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### III. STATUS OF CLAIMS

Claims 1-6 and 8-12 are pending in this application. Claims 1-6 and 11 have been finally rejected. Claims 8-10 and 12 are allowed. It is from the final rejection of claims 1-6 and 11 that this appeal is taken.

### IV. STATUS OF AMENDMENTS

No amendment has been filed subsequent to the imposition of the final Office Action dated May 21, 2003.

### V. SUMMARY OF INVENTION

This invention addresses and solves the problem of exchange boards with complicated cross wiring for burn-in inspection apparatuses and the problem of forming multi-layer wiring boards or stacking a plurality single layer wiring boards for the burn-in inspection apparatus (page 3, line 26 to page 4, line 12; and page 5, lines 2 to 5 of the written description). This invention also allows a greater number and wider range of semiconductor integrated circuits to be mounted on a single burn-in board (page 4, lines 13 to 25 of the written description).

The present invention provides a highly-versatile inspection apparatus which can be used with various types of semiconductor integrated circuits. The present invention provides an inspection apparatus for inspecting a plurality of semiconductor integrated circuits mounted on a base board. The apparatus comprises exchange boards, each electrically connecting socket terminals of a socket to a specific relay pin, and spacers interposed between each of the exchange boards and the base board (page

5, lines 9 to 18 of the written description).

## VI. ISSUES

### A. The Rejection

Claims 1-6 and 11 are rejected under 35 USC § 103(a) as being unpatentable over Tada et al. in view of Chiba.

### B. The Issues

The issue that arises in this appeal that require resolution by the Honorable Board of Appeals and Interferences (the Board) is whether claims 1-6 and 11 are unpatentable under 35 USC § 103(a) for obviousness predicated upon the combination of Tada et al. in view of Chiba.

## VII. GROUPING OF CLAIMS

Claims 1-6 and 11 all stand or fall together.

## VIII. THE ARGUMENT

### A. The Examiner's Position

The Examiner asserts that Tada et al. disclose an inspection apparatus for inspecting a plurality of semiconductor ICs mounted on a base board including a plurality of relay pins (R1, R2) electrically connected to a wiring pattern laid on the base board (4) and sockets (2). The Examiner avers that Tada et al. are silent concerning the exchange boards. The Examiner relies on Chiba to teach the exchange boards

(15) electrically connecting socket terminals (15a) of a socket to specific relay pins (16a). The Examiner considers the relay pins (16a) to also function as the spacers. The Examiner concludes that it would have been obvious "to provide the exchange board and spacer interposed within the socket mounted device for the purpose of ensuring the wiring pattern connected to socket pins to be lead onto the relay socket in its externally exposed area."

#### B. Appellant's Position

Tada et al. and Chiba, whether taken alone, or in combination, fail to suggest the claimed inspection apparatus. Tada et al. teach a self-contained testing apparatus that has no need for additional elements, such as an exchange board and spacers. There is no indication in Tada et al. that the apparatus of Tada et al. would benefit by including an exchange board and spacers. Furthermore, there is no teaching in Chiba to suggest the asserted exchange board and spacers of Chiba would somehow be beneficial to the apparatus of Tada et al. There is no motivation to include additional elements in the apparatus of Tada et al. Including additional elements in the apparatus of Tada et al. would make the inspection apparatus more complex for no beneficial reason. The asserted exchange boards and spacers of Chiba would not serve any useful purpose in the apparatus of Tada et al., and would only add to the complexity of the Tada et al. apparatus.

Obviousness can be established only by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. *In re Kotzab*, 217 F.3d 1365, 1370 55 USPQ2d 1313, 1317 (Fed. Cir. 2000); *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992); *In re Fine*, F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988). There is no suggestion or motivation found in the teaching of Chiba to modify the teaching of Tada et al. The

section 103 rejection is improper and should be withdrawn.

Furthermore, although a reference can be modified, the prior art must suggest the desirability of modifying a reference. See *In re Mills*, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990). The Examiner's conclusion that it would have been obvious to substitute the teachings of Chiba into Tada et al. is not supported by the cited references.

The requisite motivation to support the ultimate legal conclusion of obviousness under 35 U.S.C. § 103 is not an abstract concept, but must stem from the applied prior art as a whole and realistically impel one having ordinary skill in the art to modify a specific reference in a specific manner to arrive at a specifically claimed invention. *In re Deuel*, 51 F.3d 1552, 34 USPQ2d 1210 (Fed. Cir. 1995); *In re Newell*, 891 F.2d 899, 13 USPQ2d 1248 (Fed. Cir. 1989). Accordingly, the Examiner is charged with the initial burden of identifying a source in the applied prior art for the requisite realistic motivation. *Smiths Industries Medical System v. Vital Signs, Inc.*, 183 F.3d 1347, 51 USPQ2d 1415 (Fed. Cir. 1999); *In re Mayne*, 104 F.3d 1339, 41 USPQ2d 1449 (Fed. Cir. 1997). There is no motivation in either Tada et al. or Chiba to include exchange boards and spacers into the inspection apparatus of Tada et al. to produce a more complex apparatus.

The Examiner argues that providing an exchange board and spacer interposed within a test system is well known in the art. The only teaching of an inspection apparatus for inspecting a plurality of semiconductor integrated circuits mounted on a base board, wherein the apparatus comprises exchange boards, each electrically connecting socket terminals of a socket to a specific relay pin, and spacers interposed between each of the exchange boards and the base board, as required by claim 1, is found in Appellants' disclosure. However, the teaching or suggestion to make a claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on appellants' disclosure. *In re Vaack*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). Even if exchange boards and

spacers are well known, it does not necessarily follow that there is motivation for substituting an exchange board and spacer into any given inspection apparatus, especially when the substitution would provide a more complicated apparatus with no benefit.

As explained above, the cited references do not suggest any benefit from adding the exchange board and spacers of Chiba into the apparatus of Tada et al. The only teaching of the claimed combination is found in Appellants' disclosure. It appears the Examiner relied on impermissible hindsight reasoning in reaching the conclusion of obviousness.

#### IX. CONCLUSION

Based upon the arguments submitted supra, Appellants respectfully submit that the Examiner's rejections under 35 U.S.C. § 103 are not legally viable. Appellants, therefore, respectfully solicit the Honorable Board to reverse the Examiner's rejections of claims 1-6 and 11 as obvious as evidenced by Tada et al. and Chiba.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

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X. APPENDIX

Appealed Claims

1. An inspection apparatus for inspecting a plurality of semiconductor integrated circuits mounted on a base board, the apparatus comprising:

a plurality of relay pins electrically connected to a wiring pattern laid on the base board;  
sockets provided on the base board, each housing a semiconductor integrated circuit;  
exchange boards, each electrically connecting socket terminals of a socket to a specific relay pin; and  
spacers interposed between each of the exchange boards and the base board.

2. The inspection apparatus according to claim 1, wherein the exchange board is a film-like sheet board, and a reinforcement plate for reinforcing the sheet-like board is provided between the sheet-like board and the spacers.

3. The inspection apparatus according to claim 1, wherein the exchange board is provided with a pin socket for holding the relay pins, and the relay pins are removably attached to the exchange board.

4. The inspection apparatus according to claim 1, wherein the base board has a pin socket for holding the relay pins, and the exchange board is removable from the base board together with the relay pins.

5. The inspection apparatus according to claim 1, wherein a circuit element or a pattern for receiving a circuit element is formed in an area on the base board, the area opposing the exchange board.

6. The inspection apparatus according to claim 1, wherein a circuit element or a pattern for receiving a circuit element is formed in an area on the exchange board, the area opposing the base

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board.

11. An inspection method for inspecting a semiconductor integrated circuit using the inspection apparatus according to claim 1.